

AMENDMENTS TO THE CLAIMS

Claims 1-16 (previously canceled)

Claim 17 (previously canceled)

18. (currently amended) A patterned conductive polymer surface comprising:

a substrate; and

a patterned conductive polymer on said substrate, wherein said patterned conductive polymer includes the at least one unexposed region[s] of a conductive polymer which is partially directly exposed to irradiation, wherein said patterned conductive polymer surface has an optical transmittance greater than 80%.

19. (previously amended) The patterned conductive polymer surface of claim 18 wherein an adhesion property between the polymer and substrate is weakened upon irradiation.

20. (previously presented) The patterned conductive polymer surface of claim 18, wherein said substrate is selected from the group consisting of glass, quartz, silica, silicon, silicon nitride, alumina, aluminum nitride, titania, titanium nitride, diamond, waxes, polyesters, polyvinylacetates, polyolefins, polyethers, polyvinylmethylether, polyvinylbutylethers, polyamides, polyacrylamides, polyimides, polycarbonates, polysulfones, polyketones, fluoropolymers, aromatic hydrocarbon polymers, acrylate and acrylic acid polymers, phenolic polymers, polyvinylalcohols,

polyamines, polypeptides, siloxane polymers, polyvinylchlorides, polyvinylbenzylchlorides, polychlorostyrenes, polyvinylbutyral, copolymers thereof, and mixtures thereof.

21. (previously presented) The patterned conductive polymer surface of claim 18, wherein said conducting polymer is selected from the group consisting of cis and trans polyacetylenes, polythiophenes, polydiacetylenes, polyparaphenylenes, polypyroles, polybithiophenes, polyisothiophenes, polyphenylvinylanes, polythienylvinylanes, polyphenylenesulfides, polyanilines, derivatives thereof, and mixtures thereof.
22. (previously presented) The patterned conductive polymer surface of claim 18, wherein said conducting polymer is PEDOT:PSS.
23. (previously presented) The patterned conductive polymer surface of claim 18, wherein said irradiation is ultraviolet radiation.
24. (previously presented) The patterned conductive polymer surface of claim 18, wherein the wavelength of said irradiation is < 400 nm.
25. (cancelled) The patterned conductive polymer surface of claim 18, wherein an adhesion property between the polymer and the substrate is weakened upon irradiation.

26. (previously presented) A patterned conductive polymer surface formed by the process of:

forming a surface of a conducting polymer on a substrate;

applying a mask to said surface;

applying irradiation to form regions of exposed conducting polymer and regions of unexposed conducting polymer;

removing said mask; and

gently removing by non-chemically reactive means said regions of exposed conducting polymer, wherein said patterned conductive polymer surface has an optical transmittance greater than 80%.

27. (previously presented) The patterned conductive polymer surface of claim 26, wherein said substrate is selected from the group consisting of glass, quartz, silica, silicon, silicon nitride, alumina, aluminum nitride, titania, titanium nitride, diamond, waxes, polyesters, polyvinylacetates, polyolefins, polyethers, polyvinylmethylether, polyvinylbutylethers, polyamides, polyacrylamides, polyimides, polycarbonates, polysulfones, polyketones, fluoropolymers, aromatic hydrocarbon polymers, acrylate and acrylic acid polymers, phenolic polymers, polyvinylalcohols, polyamines, polypeptides, siloxane polymers, polyvinylchlorides, polyvinylbenzylchlorides, polychlorostyrenes, polyvinylbutyrals, copolymers thereof, and mixtures thereof.

28. (previously presented) The patterned conductive polymer surface of claim 26, wherein said conducting polymer is selected from the group consisting of cis and trans polyacetylenes, polythiophenes,

polydiacetylenes, polyparaphenylenes, polypyroles, polybithiophenes,
polyisothiophenes, polyphenylvinylenes, polythienylvinlenes,
polyphenylenesulfides, polyanilines, derivatives thereof, and mixtures
thereof.

29. (previously presented) The patterned conductive polymer surface of claim 28, wherein said conducting polymer is doped.
30. (previously presented) The patterned conductive polymer surface of claim 26, wherein said conducting polymer is polypyrole.
31. (previously presented) The patterned conductive polymer surface of claim 26, wherein said conducting polymer is polyaniline.
32. (previously presented) The patterned conductive polymer surface of claim 26, wherein said conducting polymer is polythiophene.
33. (previously presented) The patterned conductive polymer surface of claim 26, wherein said conducting polymer is PEDOT:PSS.
34. (previously presented) The patterned conductive polymer surface of claim 26, wherein said irradiation is ultraviolet radiation.
35. (previously presented) The patterned conductive polymer surface of claim 26, wherein the wavelength of said irradiation is < 400 nm.

36. (previously presented) The patterned conductive polymer surface of claim 26, further comprising the step of using an adhesion promoter.
37. (previously presented) The patterned conductive polymer surface of claim 26, wherein said step of removing said regions of exposed conducting polymer is by sonicating.
38. (previously presented) The patterned conductive polymer surface of claim 37, wherein said sonicating is in a mild solvent, an alcoholic solution, water, or any combination thereof.
39. (previously presented) The patterned conductive polymer surface of claim 26, wherein said step of removing said regions of exposed conducting polymer is by spray washing with a mild solvent, an alcoholic solution, water, or any combination thereof.
40. (previously presented) The patterned conductive polymer surface of claim 26, wherein said step of removing said regions of exposed conducting polymer is by wiping, rubbing, taping, or blowing.
41. (previously presented) The patterned conductive polymer surface of claim 26, wherein an adhesion property between the polymer and the substrate is weakened upon irradiation.